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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,504	09/03/2004	Sanghee Kim	038665.55367US	2728
23911 7590 01/23/2007 CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			EXAMINER LE, MICHAEL	
			ART UNIT 2163	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/506,504	KIM ET AL.	
	Examiner	Art Unit	
	Michael Le	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/22/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Summary and Status of Claims

1. This Office Action is in response to Applicant's reply filed October 18, 2006.
2. Claims 1-9 are pending.
3. Claim 1 is objected to for minor informalities.
4. Claim 7 is rejected under 35 U.S.C. 112, first paragraph.
5. Claim 7 is rejected under 35 U.S.C. 101.
6. Claims 1 and 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yimam, Dawit ("Expert Finding Systems for Organizations: Domain Analysis and the DEMOIR Approach", 2000) of record, in view of Liddy et al. (US Patent 5,963,940) of record.
7. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yimam, Dawit ("Expert Finding Systems for Organizations: Domain Analysis and the DEMOIR Approach", 2000) of record, in view of Liddy et al. (US Patent 5,963,940) of record, further in view of Paik et al. ("Applying Natural Language Processing (NLP) Based Metadata Extraction to Automatically Acquire User Preferences", October 2001) of record.
8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Information Disclosure Statement

9. Applicant's confirmation of the typographical error is acknowledged and appreciated. As requested, reference AC has been considered and a supplemental PTO-1449 form has been resubmitted indicating such.

Claim Objections

10. Claim 1 is objected to because of the following informalities:
11. Claim 1, as amended, recites “from the set of documents, selecting documents that refer to the subject” in lines 3-4. The Examiner is aware of the reason for the amendment as it eliminates the possibility of a second interpretation when left in its original form. However, the Examiner suggests inserting “from the set of documents” between “selecting” and “documents” to maintain the positive method steps of the claimed method in accordance with the MPEP requirements. See MPEP 2173.05(q). The result of the suggested amendment would be “selecting, from the set of documents, documents that refer to the subject.” The Examiner believes this amendment accomplishes the purpose of Applicant’s amendment, while not changing the meaning of the limitation and maintains the positive method step recitations.

Claim Rejections - 35 USC § 112

12. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
13. **Claim 7 is rejected under 35 U.S.C. 112, first paragraph**, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In this case, claim 7 recites a “computer readable medium encoded with a program” in lines 1-2. A

computer readable medium is never mentioned or described in the Specification. It is not shown in any of the submitted drawings and was not part of the original claim. Therefore the amendment is not supported by the original Specification. If Applicant believes the rejection is in error, Applicant is invited to particularly point out areas of the Specification that provide adequate support for the amended feature.

14. The prior art rejection to claim 7 below is made as best understood in light of the rejection under 35 U.S.C. 112, first paragraph addressed above.

Claim Rejections - 35 USC § 101

15. **Claim 7 is rejected under 35 U.S.C. 101** because the claimed invention is directed to non-statutory subject matter.

16. The basis of this rejection is set forth in a test of whether the invention is categorized as a process, machine, manufacture or composition of matter and if the invention produces a useful, concrete and tangible result. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) are found to be non-statutory subject matter. For a method claim to pass muster, the recited process must produce a useful, concrete and tangible result.

17. In the present case, in light of the rejection under 35 U.S.C. 112, first paragraph above, **claim 7**, remains rejected for the same reasons as set forth in the previous Office Action.

18. To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention

Claim Rejections - 35 USC § 103

19. **Claims 1 and 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yimam, Dawit (“Expert Finding Systems for Organizations: Domain Analysis and the DEMOIR Approach”, 2000) of record, hereinafter “Yimam”, in view of Liddy et al. (US Patent 5,963,940) of record, hereinafter “Liddy”.**

20. In regards to **claim 1**, Yimam discloses a method for ranking creators of a set of documents in order to their expertise in a subject (Yimam: Table 1; Pg. 10, para. 7, lines 2-4) including the steps of:

- a. from the set of documents, selecting documents that refer to the subject to create a subject related subset of documents (Yimam: Table 1; pg. 10, para. 2);
- b. selecting extracts from the subset of documents that refer to the subject (Yimam: pg. 10, para. 3;); and
- c. using the analysis to rank the creators (Yimam: page 10, para. 7, lines 2-4).

21. Yimam does not expressly disclose analyzing the linguistic structure of the extracts by isolating verbs in the extracts to create a set of verbs for classification and classifying each isolated verb in the set of verbs according to a predetermined hierarchy.

22. Liddy discloses a natural language processing (NLP) technique that processes a subset of documents (Liddy: col. 4, lines 43-48, 59-67; col. 5, lines 1-3) and analyzes the linguistic structure of the documents (Liddy: col. 9, lines 32-35, 44-50; col. 13, lines 4-9) isolating words (verbs) (Liddy: col. 12, lines 30-35) and classifying them into a predetermined conceptual hierarchy (Liddy: col. 12, lines 47-49, 64-67; col. 13, lines 1-4).

23. Yimam and Liddy are analogous art because they are from the same field of endeavor of processing documents and extracting terms.

24. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the method of Yimam by adding the steps of analyzing the linguistic structure of the extracts by isolating verbs in the extracts to create a set of verbs for classification and classifying each isolated verb in the set of verbs according to a predetermined hierarchy, taught by Liddy.

25. The motivation for doing so would have been because Yimam describes expert finding to include the ability to interpret concept to document relations, which suggests the need for techniques to extract and analyze documents (Yimam: pg. 13, section (3), lines 2-4). It is well known in the art to use natural language processing to process documents and analyze the linguistic structure of the documents and interpreting them.

26. In regards to **claim 4**, the limitation was addressed above in the rejection to claim 1 as disclosed by Liddy. Liddy discloses decomposing documents into terms that are extracted, wherein a terms can be verbs (Liddy: col. 5, lines 8-15; col. 12, lines 32-43).

27. In regards to **claim 5**, one of ordinary skill in the art of Natural Language Processing (NLP) would be aware of the Speech Act Theory (SAT). The Speech Act Theory is well known in the art of NLP. As Applicant states in paragraph 0036 of the Specification, "SAT says that the fact that working practices are reflected through task achievement", one of ordinary skill in the art would opt to favor first person actions over third person actions. The Speech Act Theory focuses on what people "do" and not only statements that are made, but actions also performed

by those statements. Thus, referencing the SAT, at the time of the invention, it would have been obvious for one of ordinary skill in the art to modify the method of Yimam by adding the step of weighting extracts to favor those written in the first person over those written in the third person.

28. In regards to **claim 6**, Yimam discloses a method for ranking creators according to claim 1, wherein the set of documents is e-mail communications (Yimam: pg. 8, lines 5-6; Table 1).

29. **Claims 7-9** are substantially similar to claim 1 in the form of a computer readable medium encoded with a program and a computer and are rejected for the same reasons. Liddy discloses a computer programmable to perform the method of claim 1 (Liddy: col. 5, lines 20-47).

30. **Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yimam, Dawit ("Expert Finding Systems for Organizations: Domain Analysis and the DEMOIR Approach", 2000) of record, hereinafter "Yimam", in view of Liddy et al. (US Patent 5,963,940) of record, hereinafter "Liddy", further in view of Paik et al. ("Applying Natural Language Processing (NLP) Based Metadata Extraction to Automatically Acquire User Preferences", October 2001) of record, hereinafter "Paik".**

31. In regards to **claim 2**, Yimam and Liddy do not expressly disclose discloses the method for ranking creators of a set of documents according to claim 1 including the further step of:

- a. creating the predetermined hierarchy by mapping isolated verbs to an illocutionary verb in a predefined set of illocutionary verbs and;
- b. classifying the mapped isolated verbs according to the Speech Act Theory category of the corresponding illocutionary verb.

32. Paik discloses using the Speech Act Theory to classify various speech acts from analyzing email messages to different categories (Paik: pg. 118, lines col. 1, lines 42-48).
33. Yimam, Liddy and Paik are analogous art because they are directed to the same field of endeavor of processing documents and language.
34. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the combined method of Yimam and Liddy by adding the steps of creating the predetermined hierarchy by mapping isolated verbs to an illocutionary verb in a predefined set of illocutionary verbs and classifying the mapped isolated verbs according to the Speech Act Theory category of the corresponding illocutionary verb, as taught by Paik.
35. The motivation for doing so would have been because using the Speech Act Theory for classifying verbs is known in the art of Natural Language Processing.
36. In regards to **claim 3**, Yimam and Paik do not expressly disclose the method for ranking creators of a set of documents according to claim 2 including the further step of:
- a. filtering isolated verbs not having a predefined illocutionary verb and thus not successfully mapped to the set of illocutionary verbs;
 - b. checking for synonyms of the unmapped isolated verbs, that have a predefined illocutionary verb; and
 - c. classifying the unmapped isolated verbs according to the Speech Act Theory of the corresponding illocutionary verb of its synonym.
37. Liddy discloses looking up words in a lexical resource in order to assign the word a subject code, giving the word a meaning as determined from the context and other criteria

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(Liddy: col. 9, lines 51-61). Liddy also discloses using the subject codes to determine other words with the same meaning (synonyms) to disambiguate the word (Col. 9, lines 62-67; col. 10, lines 1-7, 15-18).

38. Yimam, Liddy and Paik are analogous art because they are directed to the same field of endeavor of document and language processing.

39. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the combined method of Yimam, Liddy and Paik by adding the steps of filtering isolated verbs not having a predefined illocutionary verb and thus not successfully mapped to the set of illocutionary verbs, checking for synonyms of the unmapped isolated verbs, that have a predefined illocutionary verb, as taught by Liddy, and classifying the unmapped isolated verbs according to the Speech Act Theory of the corresponding illocutionary verb of it synonym.

40. The motivation for doing so would have been because in many languages, polysemy exists and such steps are needed to properly determine the meaning of the word (Liddy: col. 9, lines 62-67; col. 10, lines 1-7). Additionally, use of the Speech Act Theory for classifying verbs is known in the art of natural language processing (Paik: pg. 116, col. 1, lines 18-20).

Response to Amendment

Specification

41. Applicant's amendment to the Specification, title and abstract is acknowledged.

Consequently, objection to the specification is withdrawn.

Rejection of Claim 4 under 35 U.S.C 112, Second Paragraph

42. Applicant's amendment to claim 4 is acknowledged. The rejection to claim 4 under 35 U.S.C. 112, second paragraph is withdrawn.

Rejection of Claim 7 under 35 U.S.C 101

43. Applicant's amendment to claim 7 is acknowledged, however due to the issue of new matter as discussed above under 35 U.S.C. 112, first paragraph, the rejection is maintained.

Response to Arguments

Rejection of claims 1 and 4-9 under 35 U.S.C. 103(a)

44. Applicant's arguments in regards to the rejections to claims 1 and 4-9 under 35 U.S.C. 103(a), have been fully considered but they are not persuasive. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Applicant alleges there is no suggestion to combine because Yimam ("Expert Finding Systems for Organizations...etc.") hereinafter "Yimam", teaches a different methodology than Liddy et al. (US Patent 5,963,940) hereinafter "Liddy", and therefore teaches away from Liddy. The Examiner respectfully disagrees.

45. Although it is true that Yimam discusses determining a relationship between the concept in a document with the expert, Yimam still performs the process of extracting terms from documents in an effort to determine the actual expertise of an expert with the concept (Yimam: page. 13, section (3), paragraph 2). Additionally, the DEMOIR system of Yimam has agents for extracting names of experts from documents using natural language processing (Page 14, paragraph 3) and also source wrappers, which handle the extraction of concepts from documents (Page 15, paragraph 1). Clearly, Yimam utilizes an document term extraction methodology like Libby and therefore does not teach away from Libby. Just because Yimam has an additional feature in addition to the document term extraction, does not mean Yimam teaches away from it.

46. Consequently, the rejection to claims 1 and 4-9 under 35 U.S.C. 103(a) is maintained.

Rejection of claims 2 and 3 under 35 U.S.C. 103(a)

47. Applicant's arguments in regards to the rejections to claims 2 and 3 under 35 U.S.C. 103(a), are based on the arguments set forth with respect to claim 1, which has been addressed above. Consequently, the rejection to claims 2 and 3 under 35 U.S.C. 103(a) is maintained.

Conclusion

48. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

49. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

50. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Le whose telephone number is 571-272-7970. The examiner can normally be reached on Mon-Thurs : 9:30am-6pm, Fri: 8am-4:30pm.

51. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

52. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Michael Le
Art Unit 2163
January 4, 2007

A handwritten signature in black ink, appearing to read 'Wilson Lee', with a stylized, cursive script.

WILSON LEE
PRIMARY EXAMINER